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Rice Center for Engineering Leadership

ENGI 242/542 ◆ Communication for Engineers: Building a Practical Toolbox
Course Syllabus – Fall 2017

Class meets Wednesdays from 2:30-5:00 in Herring Hall, room 129

Instructors

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Dr. Gayle Moran, RCEL Lecturer in Professional and Engineering Communication, will collaborate with us extensively throughout the semester: gayle.moran@rice.edu ◆ 713-348-5731 ◆ Office: Mech Lab 106 (hours by appointment)

Note: This syllabus reflects my commitment to you and my expectations of you in a professional learning environment. I want to hear your suggestions, and I may adjust the syllabus to ensure an effective learning experience. Any time you have a question, please ask it as soon as possible.

Course Materials

ENGI 242/542 does not have required textbook, but you will receive instructions on various readings and video clips to watch before classes. We will distribute materials as needed, giving you at least one week in advance of any due date so you can read the material before class.

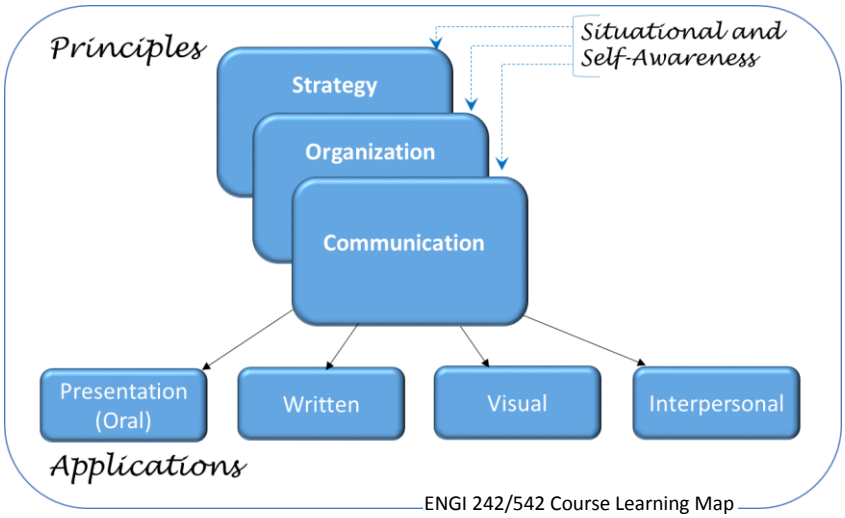
Why should engineers study and practice communication?

Organizations hire engineers to provide groundbreaking solutions to complex technical problems. Solving the problem with technology is only half the solution; implementing the solution will rely on your ability to communicate effectively. Your professional success will depend on your ability to explain, to persuade, to listen, and to collaborate. ENGI 242/542 focuses on building a practical toolbox of skills in presenting, writing, data visualization, and interpersonal communication, so you can communicate clearly and confidently.

What's the big picture?

The course learning map at right gives a high-level overview of the course structure. The objectives of ENGI 242/542 are to:

- **Enhance** your awareness of situations and your personal presence to prepare you to communicate effectively and ethically in academic and professional engineering environments.
- **Develop** your understanding of key principles of communication strategy and frameworks for organizing communication.
- **Apply** those principles and frameworks in oral, written, visual, and interpersonal communication situations.



ENGI 242/542 Course Learning Map

What can you expect to know after successfully completing ENGI 242/542?

After the class, you should be able to achieve your communication goals by doing the following:

- Selecting, evaluating, and using appropriate communication strategy, including
  - Context and situation analysis, purpose definition, audience analysis, selection of persuasive approach, choice of media/messengers, and measurement of outcomes
  - Development of content for key messages and support of assertions with evidence, examples, and research
  - Organizing and structuring message content logically and effectively for a given audience

- Mastering and applying communication strategy and organizational principles through
  - Development of impromptu and prepared oral presentations to inform/persuade
  - Delivery of oral presentations effectively, both individually and in a team
  - Tailoring content for technical and non-technical audiences including ability to deliver key messages concisely
  - Writing professional, engineering-related communication with simplicity, clarity, and completeness
  - Visual representation (graphics and data) to support ideas with integrity and clarity
  - Interpersonal communication, listening, giving and receiving feedback, and handling difficult conversations

- Demonstrating professional credibility and confidence in a variety of engineering and professional settings through
  - Leadership communication and the ability to influence others
  - Effective networking
  - Productive team communication

How will you be learning and engaging in this course?

ENGI 242/542 begins with what you inherently know about communication, followed by additional instruction, practice, and feedback. Much of your learning will happen on your feet – classes will focus on hands-on learning with extensive discussion, exercises, simulations, presentations, coaching, and peer/faculty feedback. Outside of class, you will complete assigned readings, watch videos, do research, write assignments, and prepare for individual and team presentations. Individual presentation topics are **inquiry-based**, which means that you will select topics of interest to you rather than being assigned a topic.

The course requires your **active engagement** and commitment to driving your own learning process. Please read "the fine print" on page 6 of this syllabus. I will ask for your confirmation that you have done this!

How will we evaluate your work?

Faculty will post specific instructions and expectations for each assignment to Canvas (ENGI 242/542) under the Assignments section. Read and follow instructions carefully. The following grading scale applies to all assignments:

Graded Assignments

A+ = 100-98	A-/B+ = 90	B- = 82-80	C- = 72-70
A = 97-94	B+ = 89-87	C+ = 79-77	D = 69-60
A- = 93-91	B = 86-83	C = 76-73	F = below 60 or R = Resubmit

Class Professionalism and Participation Rubric

100-96	Exceptional and consistently insightful comments in class. Exceptional engagement in and completion of individual and group activities, outstanding attention to peers.
95	Frequent and strong class contributions. Strong engagement in and completion of individual and group activities, and strong attention to peers.
85	Occasional class comments. Satisfactory engagement in and completion of individual and group activities. Adequate attention to peers.
75	Little participation in class discussions. Careless or incomplete engagement in or completion of individual or group activities. Occasional or rare attention to peers.
0-25	Excessive unexcused absences. Poor participation in discussions and unsatisfactory engagement in or completion of individual or group activities. Inadequate attention to or respect for peers, or unprofessional conduct.

Graded Assignment Summary, Due Dates, and Percent Weightings

Due Date	Assignment (see assignment instructions below for details) All assignments are individual except for the Team Roundtable Presentation	Percent of Final Grade
August 30	Written and Self-assessments	ungraded
September 20	Oral Presentation #1 (Individual informative presentation with PPT)	10%
September 27	For ENGI 542 only – First Informational Interview Assignment Due	see below
October 4	Writing Assignment #1	10%
October 11	Oral Presentation #2 (Individual persuasive presentation with PPT)	10%
October 18	Visualization of Data Assignment	10%
November 1	Writing Assignment #2	15%
November 1	Informational Interview Assignment (Second for ENGI 542, first for 242)	5%
November 8	Team Roundtable Presentation (5% team, 5% individual)	10%
November 29	Final Oral Presentation (Individual "balanced view" with PPT and data/graphic requirement) Note that your topic is due by email on Nov. 13 by midnight.	15%
Various dates	Class professionalism and participation: this grade includes weekly class attendance and participation, timely response to / acknowledgement of emails, professional engagement in the course, completion of homework such as the self-assessments, various individual and group in-class exercises, "stand and deliver" presentations, and the quality of feedback you offer your peers.	15%

Weekly Class Plans and Schedule of Assignments for Fall 2017

Date and Topics (Wednesdays unless otherwise noted)	Assignments, Readings, and Notes
First Session – August 23 • Introductions (faculty and peer) • Introduction to course: Communication for Engineers ○ The Informational Interview Assignment • Exploring everyday communication • Personal Presence, Professionalism, and your Personal Brand – individual elevator pitches and networking • Oral Assessments (stand and deliver topics)	Today we will give you directions on how to complete two baseline assessments of your skills: 1. The communication self-assessment spreadsheet 2. A written assessment to gauge your writing abilities PLEASE COMPLETE THE ASSESSMENTS by class time on August 30 and upload to Canvas in the appropriate assignment tab.
Second Session – August 30 • Foundations of Communication Strategy (in conjunction with the case discussion) • Strategic Thinking for Communication (example and application) • The Pyramid Principle (a hands-on experience in building logical and well-organized communications)	Finish and upload your assessments Read handouts from the first class: • The full course syllabus (really read **all** of it!) • *Communication Strategy* text excerpt • Case: *Installing a Medical Waste Incinerator* • Informational interview assignment instructions Start thinking about your interviewees (industry, company, person).
Third Session – September 6 • From Pyramid to Deliverables • How to Structure and Deliver Powerful Presentations • Framing, Simplicity, and Creativity - tips on eye contact, hand gestures, and speaking with conviction	READ the assignment instructions for the ten-minute Oral Presentation #1; SEND an email to Betho@rice.edu by class time on September 6 to propose your topic.
Special Events: **Engineering Lift Off at the RMC (September 9, 1:00)** **Center for Career Development (CCD) Engineering Evening with Industry (September 18)** **CCD Fall Career and Internship Expo (September 19 – check CDC calendar for times and location.)**	
Fourth Session – September 13 • Progress Check on Informational Interview • Visual Support for Oral Presentations • PowerPoint (PPT) Best Practices • The Zen of Graphics • Additional Presentation Media / Methods	Bring to class several examples of PPTs you have seen – good or bad and be ready to discuss why you did or did not think they were effective. Continue work on your oral presentation; revisit your planned PPT graphics **after this session** to ensure that your slides meet "best practices" design.
Fifth Session – September 20 **See classroom assignments - class may run long today!** • Effective Peer Feedback • Individual Oral Presentation #1 – Informative • Moving from "Tell" to "Sell" – highlights of persuasive techniques and introduction to second oral presentation assignment • We will be dividing into two classrooms today – we will give you room information on September 13.	First oral presentation. Complete *Think Before You Communicate* and upload it to Canvas in the assignment tab before class. Bring your slides on a USB Drive – **do not count on being able to download from Google Docs!** Before class: • Practice your presentation • Anticipate questions your audience might ask and be ready with answers Optional video resources: • https://www.youtube.com/watch?v=WCi5_lGMSGo • http://www.nofreakingspeaking.com/resources/ Consider reading: *Speaking Up Without Freaking Out* by Matt Abrahams (on reserve in the Business Information Center in McNair hall)

Date and Topics (Wednesdays unless otherwise noted)	Assignments, Readings, and Notes
Sixth Session – September 27 (Dr. Gayle Moran) Writing for Engineers • Introduction • Academic to professional writing • Writing process • Process description • Emails (opening, body, conclusion, greetings, signatures, subject line, and tone)	Note: if you are a graduate student, your first informational interview write-up is due posted to Canvas today. Before class, allow about 25 minutes to watch these four videos, which you will find posted to Canvas: • Writing-Strategy refresh • Writing-FAQs for sentences • Writing-FAQs for pronouns • Writing-FAQs for punctuation Optional video resources: • Writing-Process (8m) • Writing-Email-Thinking & planning (8m) • Writing-Email-Writing your message (7m) • Writing-Email-Finishing & sending (7m) Dr. Moran will explain the first graded writing assignment today - upload your completed assignment to Canvas by class time on October 4.
Seventh Session – October 4 **Guest Presenter – Dr. Tracy Volz, Director of Rice's Program in Writing and Communication** • Visualization of Data • Engineering Poster Design	Writing Assignment #1 due to Canvas by class time Look for and read posted articles on Canvas – I will provide these by September 27 Email proposing your topic for Oral Presentation #2 due by email to Betho@rice.edu by class time.
October 6 – Mid-semester grades are due to the Registrar for first year undergraduates **October 9-10 Midterm recess**	
Eighth Session – October 11 **See classroom assignments - class may run long today!** • Individual Oral Presentation #2 - Persuasive Presentation • Introduction of second writing assignment • How to Design and Deliver a Roundtable Presentation and working session • We will be dividing into two classrooms today – we will give you room information by October 4.	Second oral presentation. Complete *Think Before You Communicate* and upload it to Canvas in the assignment tab before class. Bring your slides on a USB Drive – **do not count on being able to download from Google Docs!** Before class: • Practice your presentation • Anticipate questions your audience might ask and be ready with answers
Special Event: CMC Business Etiquette Lunch (CCD) October 14	
Ninth Session – October 18 (Dr. Gayle Moran) • Writing process • Product description • Clear and concise (includes vague to specific, word choice, pronoun references and wordiness) • Paragraphs (includes topic sentences and paragraph development) • Formatting • Proposals • Executive summaries	Visualization of Data Assignment due to Canvas by class time. Before class, allow about 40 minutes to watch these seven short videos, which you will find posted to Canvas: 1. Writing-Clear sentence structure 2. Writing-Voice 3. Writing-Cohesion-Echo words, transitions, & signals 4. Writing-Cohesion-Known to new 5. Writing-Organizing principles 1 (more on next page)

Date and Topics (Wednesdays unless otherwise noted)	Assignments, Readings, and Notes
	6. Writing-Paragraph FAQs 7. Writing-Executive summary Optional video resources: 1. Writing-Topic sentences & unity (7m) 2. Writing-Vague to specific (4m) 3. Writing-Word choice (7m) 4. Writing-Wordiness (5m)
Tenth Session – October 25 • Listening, Linguistic Style, and Intercultural Communication	Read before class: • *Who Gets Heard and Why* (link to Fondren will be available on Canvas) • *Active Listening*, by James G. Clawson – posted to Canvas
Eleventh Session—November 1 • Finish Intercultural Communication • Recap from informational interviews • If time permits: work session with your group to develop your roundtable presentation materials.	A busy day – note that there are TWO assignments due today: Second informational interview and writing assignment #2 both due today uploaded to Canvas by class times
Twelfth Session – November 8 • Roundtable Presentation – Case: *WBC Labs Management Briefing* • In-class review of persuasive presentations and feedback in preparation for final presentation	Before class: • Read *WBC Labs Management Briefing* and prepare your assigned team's roundtable presentation for next time • Practice your presentation and anticipate questions your audience might ask and be ready with answers. • **Email** your presentation deck to betho@rice.edu by 1:00 PM if you want me to make copies; otherwise, BRING 3 copies of your presentation deck in addition to a copy for each speaker.
Monday Assignment – Due November 13 by midnight: Email Beth at betho@rice.edu to propose a topic for your final oral presentation. Your final presentation will offer a "balanced view" of an engineering-related topic that has clear pros and cons. You must be prepared to support your assertions with evidence including at least two graphs or charts, so allow adequate time for research.	
Thirteenth Session – November 13 • Difficult Conversations • Putting Voice to Values in Ethical Situations	Read: *Feedback models, tips, and tools* (Canvas). I will bring additional case scenarios to class and allow time for in-class reading.
Special event for grad students only: CDC Careers In Tech (Nov 17, 12pm-1pm – check CDC Website for location)	
Fourteenth Session - November 22 - No class; Happy Thanksgiving!	
Thanksgiving Recess – November 25-26	
Fifteenth Session – November 29 • Final Presentations and Class Evaluation • We will be dividing into two classrooms today – we will give you room information by November 13.	Bring your slides on a USB Drive – do not count on being able to download from Google Docs! Final oral presentation. • Practice your presentation. • Anticipate questions your audience might ask and be ready with answers.
There will be no final exam.	

What's the "fine print" of our mutual expectations?

Arrive on time and attend all classes

I will always begin on time and end on time. You must attend all classes unless excused **in advance.** Please contact me via email (betho@rice.edu) or phone (832-215-2049) if needed **before class** if you cannot attend or believe you will be late. I will consider pre-approved, legitimate reasons (e.g., sickness, documented job interview, etc.) as excused absences; unexcused absences or excessive requests for excused absences will result in reduction in your course grade.

Be prepared and participate in class

The best learning experiences happen when everyone is prepared for and participates in class. Please do the assigned readings and watch the required videos, think about discussion questions I pose, and be ready to contribute in each class. Participating in class allows you to practice critical thinking and listening skills while developing the ability to balance advocacy for your own ideas with inquiry into the ideas of others. I may "cold call" to ensure that everyone participates and that you have been listening. Whenever possible, I expect you to build upon or help to clarify other students' insights.

Answer emails and be professional

This syllabus does not offer a rule to cover every contingency or situation. I pledge to treat you with respect and consideration and expect that you will treat faculty, as well as each other, with the same level of courtesy and professionalism. Professionalism is demonstrated in many ways, which we will discuss in class. Responding to emails in a timely manner is one key example; if I send you an email, I expect that you will acknowledge receipt and answer any questions I may have posed, and do so in a timely manner.

Turn in work on time and apply high standards of care

Submit your work on time. I may accept late submissions at my discretion, but only if you notify me in a timely manner (at least two days in advance), and I reserve the right to apply a grade penalty if appropriate. All makeup work is also at my discretion and needs to be completed within one week from the original deadline for a given assignment.

I will review and grade all assignments only once unless I ask you to resubmit. However, if you have questions at any time about the evaluation or feedback please contact me or Dr. Moran in the case of her sessions.

In addition to clear thinking and expression, your work should be free from spelling, usage, and grammatical errors. The quality and attention to detail in your work is part of your overall professional character and reflects your competence and care here at Rice and eventually in the workplace. Review the "Keys to Better Writing" posted to Canvas. What you learn in class applies to ALL your communications – written and verbal – not just in this class!

Adhere to the Rice Honor Code: *On my honor, I have neither given nor received any aid on this assignment.*

Don't copy the work of others. You are responsible for maintaining the highest standards of honesty and integrity in your work and conduct. All written work and oral presentations submitted in this course are subject to the Rice Honor Code. You must do your own work, and are personally responsible for all assignments, unless the syllabus explicitly states that the assignment is a team endeavor. The Honor Pledge should be typed and "signed," using your student ID number, on all work submitted for the course. For team submissions, list all students' ID numbers or names as appropriate. For PPT presentation slides, put the Honor Pledge in 16-point font on the last slide in your slide deck, along with citations for sources you used. Note: do NOT put student ID numbers on PPT decks.

Under the Honor Code, plagiarism is considered academic fraud and can be reported to the Rice Honor Council. The Council defines plagiarism as: "quoting, paraphrasing, or otherwise using another's words or ideas as one's own without properly crediting the source." It is an Honor Code violation to copy anything that you did not write unless you cite it. This means that you must put verbatim text in quotes, and provide a footnote, endnote, or in-line reference.

As you research papers and presentations, keep careful notes about sources and DO NOT CUT AND PASTE! Even if you paraphrase, you still need to cite sources. If you have questions, refer to the Honor System Handbook (http://honor.rice.edu/honor-system-handbook/) or contact me or Dr. Moran **before** turning in an assignment. Thank you for reading this far! Please email me at betho@rice.edu to let me know as soon as you have finished reading.

What if I need special assistance or accommodations?

Any student with a special need or documented disability requesting academic adjustments or accommodations should contact Beth by email during the first week of class. All discussions will remain confidential. Students with disabilities will also need to contact Disability Support Services in the Allen Center at 713.348.5841 or http://dss.rice.edu.